

## PATENT COOPERATION TREATY

TRANSLATION

From the  
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing  
(day/month/year)

Applicant's or agent's file reference

NSK002766PCT

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/JP2004/019844

International filing date (day/month/year)

28.12.2004

Priority date (day/month/year)

08.01.2004

International Patent Classification (IPC) or both national classification and IPC

Applicant

NSK LTD.

## 1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

## 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

## 3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/IP

Authorized officer

Facsimile No.

Telephone No.

WRITTEN OPINION OF THE  
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Box No. I

Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
☐ This opinion has been established on the basis of a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing  
☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
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<b>Box No. V</b>	<b>Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</b>		
<b>1. Statement</b>			
Novelty (N)	Claims	1 - 7	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1 - 7	NO
Industrial applicability (IA)	Claims	1 - 7	YES
	Claims		NO
<b>2. Citations and explanations:</b>			
<p>Document 1: Microfilm of the specification and drawings annexed to the written application of Japanese Utility Model Application No. 119057/1983 (Laid-Open Utility Model No. 26328/1985), (Toyota Motor Corporation), 22 February 1985, full text, all drawings</p> <p>Document 2: Microfilm of the specification and drawings annexed to the written application of Japanese Utility Model Application No. 185703/1986 (Laid-Open Utility Model No. 89432/1988), (Daihatsu Motor Co Ltd), 10 June 1988, Fig. 1</p> <p>Document 3: Microfilm of the specification and drawings annexed to the written application of Japanese Utility Model Application No. 61346/1979 (Laid-Open Utility Model No. 161926/1980), (Jidosha Buhin Seizo Co Ltd), 20 November 1980, Fig. 4</p> <p>Document 4: Microfilm of the specification and drawings annexed to the written application of Japanese Utility Model Application No. 153397/1978 (Laid-Open Utility Model No. 70623/1980), (Nissan Motor Co Ltd), 15 May 1980, Figs. 1-2</p> <p>Document 5: JP 2003-054421 A (NSK Ltd), 26 February 2003, claim 1</p> <p>Document 6: JP 4-16656 B2 (Garlock Inc), 24 March 1992, page 6, line 25 to page 7, line 5, Fig. 5 &amp; US 4215869 A &amp; EP 0027130 A &amp; WO 1980/002315 A1 &amp; CA 1145376 A</p> <p>The inventions of claims 1-3 and 6 do not appear to involve an inventive step over documents 1-3 cited in the ISR. A person skilled in the art could easily conceive of attaching the seal body of document 1 to the tip portion of the seal cover 25, similarly to the second seal member 16 of document 2 or the packing 14 of document 3.</p> <p>The invention of claim 4 does not appear to involve an inventive step over document 4 cited in the ISR. A person skilled in the art could easily set the tip portion of the seal cover 25 of document 1 similarly to the roller stopping cover of document 4 such that the outer diameter of the male shaft becomes smaller.</p> <p>The invention of claim 5 does not appear to involve an inventive step over documents 3 and document 5 cited in the ISR. A person skilled in the art could easily conceive of coating the spline shaft 15 portion which the seal body 20 of document 1 touches with a solid lubricating membrane, as with the male spline shaft 1 of document 5.</p>			

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## Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: Box V

The invention of claim 7 does not appear to involve an inventive step over documents 1-3 and document 6 cited in the ISR. A person skilled in the art could easily conceive of placing the attachment portion 62 of document 62 between the end portion of the seal cover 25 and the spline sleeve 10 of document 1.